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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/666,629	09/20/2000	David A. Russo	TI-29688	5697
23494	7590	11/13/2003	EXAMINER _____	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			GROSS, KENNETH JRA	
			ART UNIT	PAPER NUMBER
			2122	
DATE MAILED: 11/13/2003				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/666,629	RUSSO ET AL.
	Examiner	Art Unit
	Kenneth A Gross	2122

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-11 is/are pending in the application.
 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
 5) Claim(s) ____ is/are allowed.
 6) Claim(s) 1-11 is/are rejected.
 7) Claim(s) ____ is/are objected to.
 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 11) The proposed drawing correction filed on ____ is: a) approved b) disapproved by the Examiner.
 If approved, corrected drawings are required in reply to this Office action.
 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.
 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 a) The translation of the foreign language provisional application has been received.
 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claim 3 is objected to because of the following informalities: A period is needed at the end of the sentence on Page 79, line 28. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 recites the limitation "each data access instruction" (Page 79, line 8).

There is insufficient antecedent basis for this limitation in the claim. Claim 7 is rejected similarly, with the limitation "the data access instructions" (Page 80, lines 21-22). Claim 2 recites the limitation "prohibiting direct access" (Page 79, line 18). It is not clear what is being prohibited from direct access. Is the algorithm module prohibited from direct access to a peripheral device? Claim 2 recites the limitation "each algorithm header" (Page 79, line 21).

There is insufficient antecedent basis for this limitation in the claim. Claim 2 recites the limitation "all external identifiers" (Page 79, line 23). There is insufficient antecedent basis for this limitation in the claim. Claim 2 recites the limitation "each algorithm header" (Page 79, line 21). Does this mean that a header is provided for each algorithm? If this is the case, Claim 2 and parent claim 1 make mention to creating only one module, and thus there would only be need for

one algorithm header. Claim 8 is rejected for similar reasons as Claim 2. Claims 3-6 and 9-11 are rejected for being dependent on a rejected parent claim.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Reentrant: What is it, why does it matter?” by David K. Every, February 1999 (hereinafter Every) in view of “Writing Relocatable Code” by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674).

In regard to Claim 1, Every teaches designing an algorithm module in a manner that renders the algorithm module reentrant within a preemptive environment (Page 3, lines 3-6). Every does not teach coding each data access instruction of the algorithm module in a manner that renders the module and the instructions relocatable. Ganssle, however, does teach writing instructions that make code relocatable (Page 1, lines 4-5). Neither Every nor Ganssle teach providing a memory interface within the algorithm module that supports both design-time object instantiation and dynamic object instantiation. Kogure, however, teaches providing a program both static and dynamic allocation (Column 3, lines 54-60). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to design an algorithm module in a manner that renders the algorithm module reentrant within a preemptive

environment, as taught by Every, since this allows a program to be shared by several programs at one time, where the data access instruction of the algorithm module is coded in a manner that renders the module and the instructions relocatable, as taught by Ganssle, since this allows a program module to be loaded into any part of available memory, as taught by The Microsoft Press Computer Dictionary, where the program module contains a memory interface that supports both design-time object instantiation and dynamic object instantiation, since this allows for customizable memory allocation.

In regard to Claim 7, the method steps of Claim 7 correspond to the method steps of Claim 1. The main difference is that Claim 7 does not create a module, but modifies a currently existent module to be reentrant, relocatable, and have a memory interface. However, the motivation for a module with these features is stated in Claim 1. Therefore the method steps of Claim 7 is rejected under the same logic as the method steps of Claim 1, where it would be obvious to modify a preexisting module with the features listed in Claim 7, where the benefit of such features are stated in Claim 1.

6. Claims 2 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Reentrant: What is it, why does it matter?” by David K. Every, February 1999 (hereinafter Every) in view of “Writing Relocatable Code” by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674), Hosotani (U.S. Patent Number 5,701, 506), Blanck et al. (U.S. Patent Number 5,146,565), and “Microsoft Press Computer Dictionary: Third Edition”, Microsoft Press, 1997, page 484.

In regard to Claim 2, Every, Ganssle, and Kogure teach the method of Claim 1, but do not teach characterizing a ROM-ability mode of the algorithm module. Hosotani, however, does

teach characterizing a program's ability to be altered in ROM, by means of a flag (Column 1, lines 6-12). Neither Every, Ganssle, Kogure, nor Hosotani teach prohibiting direct access to a peripheral device. Blanck, however, does teach prohibiting direct access to an I/O device (Column 2, lines 29-33). Neither Every, Ganssle, Kogure, Hosotani, nor Blanck teach packaging the algorithm module in an archive which has a name that follows a uniform naming convention, naming each algorithm header using a uniform naming convention, and naming all external identifiers according to a uniform naming convention. The Microsoft Press Computer Dictionary reference, however, does teach using a Uniform Naming Convention to name files on a computer on a network, so it would be beneficial to name an archive file, algorithm module files, and external identifiers, which can be seen as file names, using a Universal Naming Convention (Page 484). The examiner takes official notice that packaging modules into an archive is a well-known method of storing often used or common modules in one place, such as a library. The examiner takes official notice that it is inherent that the method of Claim 1 further includes conforming to a run-time convention of a high level language, since the algorithm module is designed by code, and thus would need to be coded in a specific language, hence conforming to the high-level language. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 1, as taught by Every, Ganssle, and Kogure, where the method further includes characterizing a ROM-ability mode of the algorithm module, as taught by Hosotani, since this allows the module to be protected in ROM, and prohibiting direct access to a peripheral device, as taught by Blanck, since this protects the data of the peripheral device from unauthorized access, and packaging the algorithm module in an archive, since this allows commonly used or similar modules to be grouped in one place, which has a name that

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follows a uniform naming convention, naming each algorithm header using a uniform naming convention, and naming all external identifiers according to a uniform naming convention, as taught by The Microsoft Press Computer Dictionary reference, since this allows the files to be accessed from the network without naming conflicts, and finally conforming to a run-time convention of a high level language, since code written in a high level language is conformed to the language. Claim 8 corresponds directly with Claim 2 and is rejected for the same reasons as Claim 2.

7. Claims 3, 4, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Reentrant: What is it, why does it matter?” by David K. Every, February 1999 (hereinafter Every) in view of “Writing Relocatable Code” by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674), Hosotani (U.S. Patent Number 5,701, 506), Blanck et al. (U.S. Patent Number 5,146,565), “Microsoft Press Computer Dictionary: Third Edition”, Microsoft Press, 1997, page 484, and “Sams Teach Yourself Java 2 Platform in 21 Days Professional Reference Edition”, by Laura Lemay et al., Sams Publishing, 1999 (hereinafter Lemay).

In regard Claim 3, Every, Ganssle, Kogure, Hosotani, Blanck, and the Microsoft Press Computer Dictionary reference teach the method of Claim 2, but do not teach that the module contains an initialization and finalization function. Lemay, however, does teach initialization and finalization functions for objects that are called when the object is run. The methods are used in memory management (Page 2, lines 1-4). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 2, as taught by Every, Ganssle, Kogure, Hosotani, Blanck, and the Microsoft Press Computer Dictionary

reference, where the module contains initialization and finalization functions, as taught by Lemay, since this allows for better memory management. Claim 9 corresponds directly with Claim 3 and is rejected for the same reasons as Claim 3.

In regard to Claim 4, the examiner takes official notice that a header file is standard practice when programming with multiple files, and that it is well known that the header files contain statements to include a multiple of other libraries used in programming. Claim 10 corresponds directly with Claim 4 and is rejected for the same reasons as Claim 4.

8. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674), Hosotani (U.S. Patent Number 5,701,506), Blanck et al. (U.S. Patent Number 5,146,565), "Microsoft Press Computer Dictionary: Third Edition", Microsoft Press, 1997, page 484, and "Practical C++", by Rob McGregor, Que Corporation, 1999 (hereinafter McGregor).

In regard to Claim 5, Every, Ganssle, Kogure, Hosotani, Blanck, and the Microsoft Press Computer Dictionary reference teach the method of Claim 2, but do not teach providing a debug variable dentition in a header of the algorithm module, wherein the debug variable definition uses the symbol _DEBUG. McGregor, however, does teach defining a debug variable in a header by using the symbol _DEBUG (Page 8, lines 8-31). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 2, where a debug variable dentition is provided in a header of the algorithm module, wherein the debug variable definition uses the symbol _DEBUG, since this lets a programmer turn on

specified debugging features in the source code when the symbol is included in the source code.

Claim 11 corresponds directly with Claim 5 and is rejected for the same reasons as Claim 5.

9. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over "Reentrant: What is it, why does it matter?" by David K. Every, February 1999 (hereinafter Every) in view of "Writing Relocatable Code" by Jack G. Ganssle, 1992 (hereinafter Ganssle) and further in view of Kogure (U.S. Patent Number 5,247,674) and Poteat et al. (U.S. Patent Number 5,970,245).

In regard to Claim 6, Every, Ganssle, and Kogure teach the method of Claim 1, but do not teach implementing a trace interface as part of the algorithm module. Poteat, however, does implement a trace function in a software application module (Figure 3, item 26). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 1, where the method further includes teach implementing a trace interface as part of the algorithm module, as taught by Poteat, since this allows for automatic tracing of a software module for purposes of debugging.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth A Gross whose telephone number is (703) 305-0542. The examiner can normally be reached on Mon-Fri 7:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

KAG

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WEI HEN

Primary Patent Examiner